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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/669,128	09/23/2003	Adrian Boariu	042933/302926	2874

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ALSTON & BIRD LLP  
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CHARLOTTE, NC 28280-4000

EXAMINER
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FILE, ERIN M

ART UNIT	PAPER NUMBER
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2611

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/29/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

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<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/669,128	BOARIU ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Erin M. File	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 12 March 2007.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 9, 10, 15, 20 is/are rejected.
- 7) ☒ Claim(s) 4, 6-8, 11-14 and 16-19 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 2/20/2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments, see Remarks, filed March 12, 2007, with respect to the rejection(s) of claim(s) 1, 4, 6, 7, 11, 14-19 under 35 U.S.C. 102(e) as anticipated by Das et al. (U.S. Patent Pub. No. 20030148770) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Varshney et al. (U.S. Pub. No. 2003/0072283).

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claims 1, 2, 4, 6, and 14-18 are rejected under 35 U.S.C. 102(a) as being anticipated by Varshney et al. (U.S. Pub. No. 2003/0072283).

**Claims 1, 15, Varshney discloses:**

- a determiner at least adapted to receive indications of channel conditions of each channel upon which data is transmitted ([0050], lines 4-6) by each of the first and at least second transmit antenna transducers ([0051], lines 4), respectively, said

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determiner for determining at least relative channel qualities of each of the channels ([0050], lines 4-6);

- a data assignor coupled to said determiner to receive indications of determinations made thereat, said assignor for assigning the systematic part of the data encoded by the encoder ([0050], lines, 12-13, steps 7B3 and 7B6 encode and assign the information data to the assignment carrier) to at least one of the first and at least second transmit antenna transducers that exhibits relatively better channel qualities (lines 7-10) .

**Claim 2**, Varshney further discloses the radio communication system comprises a multiple-input, multiple-output communication system ([0051], lines 4), wherein the receiver comprises a first receive antenna transducer and at least a second receive antenna transducer ([0051], lines 4), and wherein said determiner is at least adapted to receive indications of channel conditions on each channel formed between each of the first and at least second transmit antenna transducers and each of the first and at least second receive antenna transducers ([0050], lines 4-8).

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. Claims 3 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Varshney et al. (U.S. Pub. No. 2003/0072283) as applied to claim 1 above, and further in view of Kuchi et al. (U.S. Patent No. 6,185,266).

**Claims 3, 20,** Das fails to disclose communicated channel conditions includes energy levels of the received data, however, Kuchi discloses the channel conditions to which said determiner is adapted to receive comprise indications of aggregated energy levels of the data detected at the receiver (col. 7, lines 16-28). The energy of a received signal is well known as a measure of the channel conditions or channel qualities, and would therefore be obvious to one skilled in the art at the time of invention to incorporate the energy of detected data measurements as disclosed by Kuchi into the invention of Varshney.

6. Claims 5, 9, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Varshney et al. (U.S. Pub. No. 2003/0072283) as applied to claim 1 above, and further in view of Kim et al. (U.S. Patent No. 7,016,658).

**Claim 5,** Kim discloses the encoder at which the data is encoded comprises a turbo encoder (col. 3, lines 27-30). Kim further discloses that the channel encoding using the turbo encoder allows for performance closest to the Shannon limit (col. 3, lines 27-30). Because of this advantage it would be obvious to one skilled in the art at the time of invention to incorporate the turbo coding as disclosed by Kim into the invention of Varshney.

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**Claim 9**, Kim further discloses a radio communication system comprises a cellular communication system operable generally pursuant to a cdma 2000 operating specification and that provides for 1xEV-DV data communications (col. 3, lines 30-32).

**Claims 10**, Kim further discloses indications of the channel conditions comprise antenna index values (col. 15, lines 2-14).

***Allowable Subject Matter***

7. Claims 4, 6-8, 11-14, and 16-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erin M. File whose telephone number is (571)272-6040. The examiner can normally be reached on M-F 1:00PM-9:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Payne can be reached on (571)272-3024. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.


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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Erin M. File

EMF

3/24/2007

  
DAVID C. PAYNE  
SUPERVISORY PATENT EXAMINER